



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,525	10/30/2003	Ulf Grandlund	AWEK 2800	4207

7812 7590 01/24/2007
SMITH-HILL AND BEDELL, P.C.
16100 NW CORNELL ROAD, SUITE 220
BEAVERTON, OR 97006

EXAMINER

LEUNG, JENNIFER A

ART UNIT	PAPER NUMBER
----------	--------------

1764

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/699,525

Applicant(s)

GRANDLUND ET AL.

Examiner

Jennifer A. Leung

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10 and 15 is/are rejected.
- 7) ☒ Claim(s) 6-9 and 16 is/are objected to.
- 8) ☒ Claim(s) 1-16 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10-30-03; 2-9-04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-10, 15 and 16, in the reply filed on November 13, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 11-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinno (JP 10-110616).

Regarding claim 1, as best understood, Shinno discloses a catalyst converter unit 1 (see Figure 1, Abstract and JPO machine translation) comprising:

a wall means (i.e., housing 5 and other wall elements) defining a treatment zone (i.e., comprising chambers 19 and 21), a first transfer zone (i.e., chamber 18), a second transfer zone (i.e., chamber 20), and at least one through-flow zone (i.e., cooling path 29); wherein the zones are adjacent to each other (see FIG. 1); the wall means includes a partition wall (i.e., the obstruction 16 located between chambers 19 and 21) that divides the treatment zone into a first

Art Unit: 1764

segment (i.e., the chamber **21**) and a second segment (i.e., the chamber **19**); the first transfer zone **18** is plugged upstream of the partition wall **16** (i.e., by means of the end wall of muffler section **3**, or the partition wall **15**) and the second transfer zone **20** is plugged downstream of the partition wall **16** (i.e., by means of end wall **22**); and

a catalytic converter element (i.e., catalytic unit **24**) disposed in the first segment of the treatment zone (i.e., within the chamber **21**, in the oxidation catalyst section **9**), spaced from the partition wall **16**;

wherein the first segment **21** is in flow communication with the first transfer zone **18** and the second segment **19** is in flow communication with the second transfer zone **20**.

Regarding claim 2, the wall means comprises a wall (i.e., a cylindrical sealing case **11**; or the walls of housing **5**; FIG. 1) that bounds the treatment zone **19,21** and has portions that bound the transfer zones **18,20** and the through-flow zone or zones **29** respectively.

Regarding claim 3, the treatment zones **19** and **21** are surrounded laterally by the transfer zones **18,20** and the through-flow zone or zones **29** (see FIG. 1).

Regarding claim 4, the transfer zones **18** and **20** are separated laterally by a common partition wall **15** (see FIG. 1).

Regarding claim 10, the first transfer zone **18** and the second transfer zone **20** are plugged substantially at opposite respective ends thereof (i.e., zone **18** is plugged by the left end wall of muffler section **3**; zone **20** is plugged at the opposite end, at wall **22**; see FIG. 1).

Instant claims 1-4 and 10 structurally read on the apparatus of Shinno.

3. Claims 1-5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tourtellotte et al. (US 3,736,105).

Art Unit: 1764

Regarding claim 1, Tourtellotte et al. (see FIG. 1 and 2; column 2, line 56 to column 3, line 76) discloses a catalyst converter unit comprising:

a wall means (i.e., including container wall 13 and other wall elements) defining a treatment zone (i.e., comprising catalyst bed regions 7 and 11), a first transfer zone (i.e., defined within pipe 4), a second transfer zone (i.e., defined between wall 13 and baffle 12) and at least one through-flow zone (i.e., defined between baffles 8 and 9; also, between baffles 9 and 10); wherein the zones are adjacent to each other; the wall means includes a partition wall (i.e., the baffle 9) that divides the treatment zone into a first segment (i.e., an inner annular segment, containing the catalyst bed 7) and a second segment (i.e., an outer annular segment, containing the catalyst bed 11); the first transfer zone (i.e., defined by pipe 4) is plugged upstream of the partition wall 9 (i.e., by means of a baffle 23) and the second transfer zone (i.e., between wall 13 and baffle 12) is plugged downstream of the partition wall 9 (i.e., by means of baffle 22); and

a catalytic converter element (i.e., catalyst bed 7) disposed in the first segment of the treatment zone, spaced from the partition wall 9;

wherein the first segment is in flow communication with the first transfer zone (i.e., via the openings defined by pipe 4) and the second segment is in flow communication with the second transfer zone (i.e., via the openings defined by baffle 12).

Regarding claims 2, the wall means comprises a wall (i.e., container wall 13) that bounds the treatment zone and has portions that bound the transfer zones and the through flow zone or zones respectively (see FIG. 1).

Regarding claim 3, the treatment zone 7,11 is surrounded laterally by the transfer zones (i.e., within conduit 4, and between wall 13 and baffle 12) and the through-flow zone or zones

Art Unit: 1764

(i.e., between baffles 8 and 9, also between baffles 9 and 10).

Regarding claim 4, the transfer zones (i.e., within conduit 4, or between wall 13 and baffle 12) are separated laterally by a common partition wall 9 (see FIG. 1).

Regarding claim 5, the unit is elongate (see FIG. 1), having an inlet end (i.e., for feed stream 2) and an opposite outlet end (i.e., for exiting stream 16), the zones each extend from the inlet end to the outlet end, the first segment of the treatment zone (i.e., comprising catalyst bed 7) is upstream of the second segment of the treatment zone (i.e., comprising catalyst bed 11) with respect to the flow from the inlet end of the catalytic converter to the outlet end thereof (see flow arrows in FIG. 1), the first transfer zone (i.e., defined by pipe 4) is plugged at a location (i.e., at baffle 23) that is upstream of the partition wall 9 in the treatment zone, and the second transfer zone (i.e., defined between wall 13 and baffle 12) is plugged at a location (i.e., at baffle 22) that is downstream of the partition wall 9 in the treatment zone.

Regarding claim 10, the first and second transfer zones are plugged substantially at opposite respective ends thereof (i.e., baffle 23 versus baffle 22; see FIG. 1)

Instant claims 1-5 and 10 structurally read on the apparatus of Tourtellotte et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinno (JP 10-110616) in view of Houdry (US 2,811,425).

The same comments with respect to Shinno apply (see claim 1 above). In addition, Shinno discloses that the catalyst converter unit 1 is incorporated into a catalytic converter apparatus (see FIG. 2, for example). Shinno, however, is silent as to the catalytic converter apparatus comprising a plurality of said catalyst converter units 1, connected end-to-end between an inlet end of the apparatus and an outlet end thereof. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a plurality of said catalyst converter units 1 in the catalytic converter apparatus of Shinno, on the basis of suitability for the intended use thereof, because the provision of multiple catalytic converter units in series, for enabling complete purification of engine exhaust, is conventional in the art, as evidenced by Houdry. In particular, Houdry teaches that in the event that a larger sized engine is used, a greater number of catalytic converter units may be added to the catalytic converter apparatus, in series, in order to fully purify the exhaust stream emitted by the engine (see FIGs. 9, 10; column 5, lines 25-40; column 6, lines 4-66). Furthermore, the duplication of parts for a multiplied effect was held to have been obvious. *St. Regis Paper Co. v. Beemis Co. Inc.* 193 USPQ 8, 11 (1977); *In re Harza* 124 USPQ 378 (CCPA 1960).

Art Unit: 1764

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tourtellotte et al. (US 3,736,105) in view of Houdry (US 2,811,425).

The same comments with respect to Tourtellotte et al. apply (see claim 1 above). In addition, Tourtellotte et al. discloses that the catalytic converter unit is incorporated into a catalytic converter apparatus (i.e., for purifying the exhaust from engine 1). Tourtellotte et al., however, is silent as to the catalytic converter apparatus comprising a plurality of said catalyst converter units connected end-to-end between an inlet end of the apparatus and an outlet end thereof. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a plurality of said catalyst converter units in the catalytic converter apparatus of Tourtellotte et al., on the basis of suitability for the intended use thereof, because the provision of multiple catalytic converter units in series, for enabling complete purification of engine exhaust, is conventional in the art, as evidenced by Houdry. In particular, Houdry teaches that in the event that a larger sized engine is used, a greater number of catalytic converter units may be added to the catalytic converter apparatus, in series, in order to fully purify the exhaust stream emitted by the engine (see FIGs. 9, 10; column 5, lines 25-40; column 6, lines 4-66). Furthermore, the duplication of parts for a multiplied effect was held to have been obvious. *St. Regis Paper Co. v. Beemis Co. Inc.* 193 USPQ 8, 11 (1977); *In re Harza* 124 USPQ 378 (CCPA 1960).

Allowable Subject Matter

6. Claims 6-9 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 1764

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 6-9, the prior art does not disclose or adequately suggest the instantly claimed configuration of the catalytic converter unit, wherein, in particular, the wall means comprises a substantially coaxially arranged inner wall and outer wall, whereby a substantially annular space is defined between the inner and outer walls, and a plurality of radial walls divide the annular space into sectors that form, respectively, the transfer zones and the through-flow zone or zones.

Regarding claim 16, the prior art does not disclose or adequately suggest the instantly claimed configuration of a plurality of catalytic converter units, wherein, in particular, the catalytic converter units are arranged in series, with the first transfer zone of an upstream catalytic converter unit aligned with a through-flow zone of an adjacent downstream catalytic converter unit, and the second transfer zone of the upstream catalytic converter unit aligned with the first transfer zone of the adjacent downstream catalytic converter unit.

Conclusion

7. The following references were made of record in the International Search Reports for European Patent Application No. 03025367 and Finland Patent Application No. 20021962:

FR 1257056; DE 2417435; US 4,625,511; DE 19855093; WO 01/42630; FR 1268668
and EP 1215375.

Although the references have been fully considered, they have not been relied upon, in light of the newly found prior art references cited above.

* * *

Any inquiry concerning this communication or earlier communications from the

Art Unit: 1764

examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449.

The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jennifer A. Leung
January 21, 2007